What is Claimed is:

1. An electric power converting device comprising:

a first switching element series circuit comprising first and second semiconductor switching elements connected in series, each with a diode in inverse-parallel connection;

a second switching element series circuit comprising third and fourth semiconductor switching elements connected in series, each with a diode in inverse-parallel connection;

a third switching element series circuit comprising fifth and sixth semiconductor switching elements connected in series, each with a diode in inverse-parallel connection;

a first capacitor;

a second capacitor connected in parallel to an AC power source;

a third capacitor connected in parallel to a load;

a first reactor; and

a second reactor,

wherein the first, second, and third switching element series circuits and the first capacitor are connected in parallel to one another,

wherein one end of the AC power source and one end of the load are connected to each other,

wherein a series connection point of the first and second semiconductor switching elements of the first switching element series circuit is connected to the one end of the AC power source through the first reactor,

wherein a series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit is connected to the other end of the AC power source,

wherein a series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit is connected to the other end of the load through the second reactor,

wherein the second and third switching element series circuits form a series converter, which compensates a change in voltage of the AC power source to supply a constant voltage to the load, and

wherein the first and second switching element series circuits form a parallel converter, which compensates a change in voltage of the first capacitor due to the compensating operation of the series converter by a charging and discharging operation between the AC power source and the first capacitor.

2. The electric power converting device as claimed in claim 1, further including:

a changeover switch having a common terminal and first and second switching contacts; and

a main switch,

wherein the common terminal is connected to the other end of the load,

wherein the second switching contact is connected to one end of the second reactor,

wherein the first switching contact is connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit,

wherein the main switch is connected between the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit and the other end of the AC power source,

wherein when any of the switching element series circuits is under an abnormal condition, a voltage from the AC power source is supplied to the load through the main switch, and the first switching contact and the common terminal of the changeover switch, and

wherein when the AC power source is under an abnormal condition, the main switch is turned-off and a voltage is supplied to the load through the second switching contact and the common terminal of the changeover switch, with the first capacitor taken as a power source.

3. The electric power converting device as claimed in claim 1, further including:

a charging and discharging unit connected across the switching element series circuits; and

an energy storing element connected to the charging and discharging unit,

wherein when the power source voltage is under a normal condition, the energy storing element stores energy through the charging and discharging unit, and

wherein when the power source voltage is under an abnormal condition, the energy storing element supplies the stored energy to the first capacitor through the charging and discharging unit.

4. The electric power converting device as claimed in claim 2, further including:

a charging and discharging unit connected across the switching element series circuits; and

an energy storing element connected to the charging and discharging unit,

wherein when the power source voltage is under a normal condition, the energy storing element stores energy through the charging and discharging unit, and

wherein when the power source voltage is under an abnormal condition, the energy storing element supplies the stored energy to the first capacitor through the charging and discharging unit.

5. The electric power converting device as claimed in claim 1, further including:

a charging unit connected across the AC power source;

a discharging unit connected across the switching element series circuits; and

an energy storing element connected to the charging unit and discharging unit,

wherein when the power source voltage is under a normal condition, the energy storing element stores energy through the charging unit, and

wherein when the power source voltage is under an abnormal condition, the energy storing element supplies the stored energy to the first capacitor through the discharging unit.

6. The electric power converting device as claimed in claim 2, further including:

a charging unit connected across the AC power source;

a discharging unit connected across the switching element series circuits; and

an energy storing element connected to the charging unit and discharging unit,

wherein when the power source voltage is under a normal condition, the energy storing element stores energy through the charging unit, and

wherein when the power source voltage is under an abnormal condition, the energy storing element supplies the stored energy to the first capacitor through the discharging unit.

7. The electric power converting device as claimed in claim 1, wherein the second reactor is a tapped reactor having one end of thereof connected to the other end of the load and the series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit, the other end of thereof connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit, and a tap terminal thereof connected to the other end of the AC power source.

8. The electric power converting device as claimed in claim 2, wherein the second reactor is a tapped reactor having one end thereof connected to the other end of the load and the series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit, the other end thereof connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit, and a tapped terminal thereof connected to the other end of the AC power source.

9. The electric power converting device as claimed in claim 3, wherein the second reactor is a tapped reactor having one end thereof connected to the other end of the load and the series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit, the other end thereof connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit, and a tapped terminal thereof connected to the other end of the AC power source.

10. The electric power converting device as claimed in claim 4, wherein the second reactor is a tapped reactor having one end thereof connected to the other end of the load and the series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit, the other end thereof connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit, and a tapped terminal thereof connected to the other end of the AC power source.

11. The electric power converting device as claimed in claim 5, wherein the second reactor is a tapped reactor having one end thereof connected to the other end of the load and the series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit, the other end thereof connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit, and a tapped terminal thereof connected to the other end of the AC power source.

12. The electric power converting device as claimed in claim 6, wherein the second reactor is a tapped reactor having one end thereof connected to the other end of the load and the series connection point of the fifth and sixth semiconductor switching elements of the third switching element series circuit, the other end thereof connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit, and a tapped terminal thereof connected to the other end of the AC power source.

13. An electric power converting device as claimed in claim 1, further including

a fourth capacitor connected in series with the first capacitor, the first and fourth capacitors forming a capacitor series circuit;

a changeover switch having a common terminal and first and second switching contacts; and

a voltage distinguishing circuit connected between the changeover switch and the AC power source, the voltage distinguishing circuit distinguishing whether an AC power source voltage is higher or lower than a specified voltage,

wherein the common terminal of the changeover switch is connected to the other end of the AC power source,

wherein the first switching contact of the changeover switch is connected to the series connection point of the third and fourth semiconductor switching elements of the second switching element series circuit,

wherein the second switching contact of the changeover switch is connected to a series connection point of the first and fourth capacitors of the capacitor series circuit,

wherein the changeover switch is switchable to connect the common terminal to the first switching contact when the voltage distinguishing circuit distinguishes that the AC power source voltage is higher than the specified voltage, and the changeover switch is switchable to connect the common terminal to the second switching contact when the voltage distinguishing circuit distinguishes that the AC power source voltage is lower than the specified voltage,

wherein when the changeover switch is switched to connect the common terminal to the first switching contact, the second and third switching element series circuits form the series converter, which compensates a change in voltage of the AC power source to supply a constant voltage to the load, and the first and second switching element series circuits form the parallel converter, which compensates a change in voltage of the first and fourth capacitors due to the compensating operation of the series converter by a charging and discharging operation between the AC power source and the first and fourth capacitors, and

wherein when the changeover switch is switched to connect the common terminal to the second switching contact, the third switching element series circuit forms the series converter, which compensates a change in voltage of the AC power source to

supply a constant voltage to the load, and the first switching element series circuit forms the parallel converter, which compensates a change in voltage of the first and fourth capacitors due to the compensating operation of the series converter by a charging and discharging operation between the AC power source and the first and fourth capacitors.

14. An electric power converting device as claimed in claim 1, further including:

a fourth capacitor connected in series with the first capacitor, the first and fourth capacitors forming a capacitor series circuit;

a switching unit; and

a voltage distinguishing circuit connected between the switching unit and the AC power source, the voltage distinguishing circuit distinguishing whether the AC power source voltage is higher or lower than a specified voltage,

wherein the switching unit is connected between a series connection point of the first and fourth capacitors of the capacitor series circuit and the other end of the AC power source,

wherein the switching unit is turned-off when the voltage distinguishing circuit distinguishes that the AC power source voltage is higher than the specified voltage, and the switching unit is turned-on when the voltage distinguishing circuit distinguishes that the AC power source voltage is lower than the specified voltage,

wherein when the switching unit is turned-off, the second and third switching element series circuits form the series converter, which compensates a change in voltage of the AC power source to supply a constant voltage to the load, and the first and second switching element series circuits form the parallel converter, which

compensates a change in voltage of the first and fourth capacitors due to the compensating operation of the series converter by a charging and discharging operation between the AC power source and the first and fourth capacitors, and

wherein when the switching unit is turned-on, the third switching element series circuit forms the series converter, which compensates a change in voltage of the AC power source to supply a constant voltage to the load, and the first switching element series circuit forms the parallel converter, which compensates a change in voltage of the first and fourth capacitors due to the compensating operation of the series converter by a charging and discharging operation between the AC power source and the first and fourth capacitors.